Amendments to the specification

Please replace the paragraph beginning at page 1, line 21, with the following rewritten paragraph:

A2

-- FIG. 1a-b (background art) depict ~~to~~ two variations of traditional gratings. As can be seen, the shape of the groove can vary. FIG. 1a shows square steps and FIG. 1b shows blazed triangles, but other shapes are also possible, e.g., sinusoidal shaped grooves, and the physics is essentially the same. –

Please replace the paragraph beginning at page 9, line 8, with the following rewritten paragraph:

A3

-- FIG. 20 is a perspective view of a three-dimensional (3D) generic grating. --

Please replace the paragraph beginning at page 24, line 14, with the following rewritten paragraph:

A4

-- FIG. 20 is a perspective view of a three-dimensional (3D) grating **880**. In the grating **880** a background material (not shown, but of a material having refractive index n_1) contains non symmetrical cubic cells **882** (of a material having refractive index n_2). An incoming light beam including three wavelengths λ_1, λ_2, λ_3, stylistically represented as first portions **884**, second portions **886**, and third portions **888**, is incident to the cells **882** on their surfaces. With respect to each of the three different incident surfaces and opposed surface sets, the cells **882** each behave like a "scatterer" according to Eq. 1 and 2, above. --

Please replace the paragraph beginning at page 25, line 20, with the following rewritten paragraph:

A5

-- In multi-dimensional contexts such a gradient need not extend merely in a single-dimensional, lengthwise manner, like the light beam **510** progressing through the liner grating **500** in FIG. 11. For example, if the index of refraction were varied from, say, the top-left corner

Amendments to the specification

to the bottom-right corner in the linear grating **850** in FIG. 19, the first portions ~~**868**~~ **866** (λ_1) and the second portions **868** (λ_2) would both contain broadened wavelength response (i.e., each be "chirped"). Similarly, if the index of refraction were varied from corner to corner in the cubical grating **880** of FIG. 20, the three respective portions **884**, **886**, **888** (λ_1, λ_2, λ_3) there would each be wavelength broadened. --

Please replace the paragraph beginning at page 26, line 30, with the following rewritten paragraph:

-- As shown in FIG. 14, 18, and 20, the cells can have one, two, or even three different thickness, to effect a corresponding number of light wavelengths differently. Furthermore, in sophisticated embodiments these respective cell thickness can intentionally be different. To help appreciate this further, reconsider the above discussion about varying cell index of refraction. Cell to cell variation can be employed. Finite sets or ranges of thicknesses for the different cells can be used; the cells so constructed can be placed in layers, another ordering, or randomly; and the proportions between the different cells can ~~cells~~ be equal or otherwise, to purposely work more or less strongly with particular light wavelengths. --